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THE DISTINCTION BETWEEN *HYPOLIMNAS ANTILOPE* (CRAMER) AND *H. ANOMALA* (WALLACE) (LEPIDOPTERA: NYMPHALIDAE), AND THE OCCURRENCE OF *H. ANOMALA* IN AUSTRALIA

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Abstract

Hypolimnas anomala (Wallace) is separated from *H. antilope* (Cramer) by the male genitalia and other characters, and is here recorded from Australia. Adults of both species and the male genitalia are figured.

Hypolimnas antilope (Cramer), 1777, has customarily been treated as a widely distributed species, with many subspecies occurring in an area extending from Malaya and the Philippines in the north, through the Indonesian chain of islands to New Guinea and the Solomons. The type locality is Ambon (Amboina) in the Moluccas. Waterhouse and Lyell (1914) recorded and figured a male specimen (Figs 1, 2) from Darwin as *H. antilope*, collected by F. P. Dodd in March 1909 and now in the Australian Museum, Sydney. This they attributed to the Timorese subspecies *albula* Wallace, 1869. A second male specimen from Australia (Figs 3, 4) was recorded as *H. antilope* by Gibb (1977) who collected it at Lockerbie near the tip of Cape York Peninsula in April 1975.

While comparing the two Australian specimens with others in the Australian National Insect Collection identified as *H. antilope* from Christmas Island (near Java) and from various New Guinea and Solomons localities, I noticed that the termen of the hindwing in males from Christmas Island and Australia appeared to be slightly more flattened than in New Guinea males. Specimens from New Guinea and the Solomons also had the ground colour in the apical half of the forewing slightly paler than in the remainder of the wing, a feature absent in specimens from Christmas Island and Australia. This was especially noticeable in males. Figures in Fruhstorfer (1911-16) and in Corbet and Pendlebury (1956) seemed to confirm that males from Malaya (Figs 5, 6) and other localities west of the Moluccas tended to differ, like the Christmas Island and Australian specimens, from those originating in Ambon (Figs 7, 8) and areas farther east.



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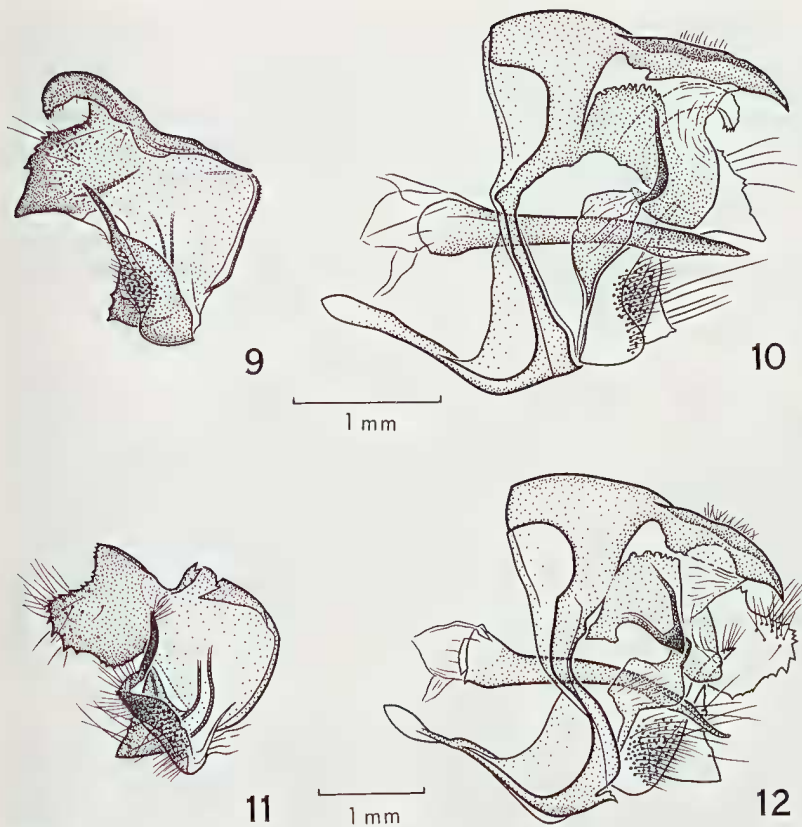
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Figs 1-8. *Hypolimnas* spp., above (left), beneath (right). (1, 2) *H. anomala*, male, Darwin, N.T.; (3, 4) *H. anomala*, male, Lockerbie, Cape York, Queensland; (5, 6) *H. anomala*, male, Taiping, Malaya; (7, 8) *H. antilope*, male Ambon, Moluccas.



Figs 9-12. Male genitalia of *Hypolimnas* spp., lateral view, with left valva removed. (9, 10) *H. anomala*, Christmas Island; (11, 12) *H. antilope*, Angoram, Sepik District, Papua New Guinea.

Examination of specimens from Malaya, Sumatra, Christmas Island, Australia, Ambon, various localities in New Guinea, the Admiralty Islands and the Solomons has confirmed these distinctions, especially the paler apical half of the forewing in populations from the Moluccas and localities farther east. Wallace (1869) in fact used this character to distinguish the male of *H. antilope* from other species in the genus. Comparison of the male genitalia of specimens from Malaya, Christmas Island (Figs 9, 10), Darwin and Cape York, on the one hand, with those from Ambon and New Guinea (Figs 11, 12) on the other, showed major differences in structure, especially of the valvae, between these two groups of populations. Of special note is the strongly protruding and curved dorsal margin and the downwardly pointed and only slightly dentate distal margin of the valva in *H. anomala*. In *H. antilope* the dorsal margin of the valva curves inwards but does not protrude apically, and the distal margin has no major projection but is much more dentate. These differences are of sufficient magnitude to support the specific separation of the two groups.

The name *H. antilope* should therefore be restricted to populations from the Moluccas, New Guinea, the Admiralty Islands, and from the Bismarck Archipelago to the Solomons. The oldest available name for populations occurring west and north of the Moluccas is *H. anomala* Wallace, 1869, the original specimens of which came from Malacca in Malaya (male) and from Java (female). This name has page precedence over *H. albula* Wallace, from Timor.

Vane-Wright *et al.* (1977) are the only recent authors who have treated these two groups of populations as separate species, under the names *H. antilope* and *anomala*, but have given no explanation for doing so. However, Mr Vane-Wright informed me (personal communication) that they considered it reasonable to treat the two as semi-species because of their pattern morphism characteristics, but had not studied their genital morphology.

The two Australian specimens, previously identified as *H. antilope*, should now be referred to *H. anomala*. They lack the slight blue gloss on the upper surface of both wings found in most, but not all specimens of both sexes of *H. anomala* from Malaya and Indonesia. Although their white markings, especially in the Queensland specimen, may be more restricted than in the Timor subspecies *albula*, Australian specimens have presumably originated in that area. Whether they represent breeding populations in Australia, or are casual immigrants, is not known. It is of considerable interest, however, that Gibb's specimen from Cape York could not have reached Queensland from New Guinea, as might have been expected, but must have come from the west, presumably via the Northern Territory.

Acknowledgements

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